

# Océane Boulais

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## EDUCATION

**B.S., Electrical Engineering**, Florida Atlantic University, Boca Raton, FL  
Expected Graduation: May 2018; GPA: 3.65/4.0

**Study Abroad**, The GREEN Program, University of Reykjavik, Reykjavik, Iceland  
August 2015

**Languages**: French, English

## RESEARCH

**Undergraduate Student Researcher, Florida Atlantic University College of Engineering and Computer Science** (Aug '13 – Jan'15)

- *Improvement of wastewater management in South Florida*, Environmental Solutions Lab, Dr. Meeroff (Jan '14 – Jan '15)
- *Exploration of Ferrofluid Globule Explosion in Sodium Sterate* Mechanical and Ocean Engineering Dept, Dr. Zu (Aug '13 – Mar '14)

**Research Fellow, Pratt School of Electrical Engineering**, Duke University (May – Aug '15)

- Explored the opportunities in RIR-MAPLE (Resonance infrared matrix-assisted pulsed laser evaporation) to build hybrid organic-inorganic solar fuel cells.

## PROFESSIONAL EXPERIENCE

**Hardware Engineering Intern, Facebook** (May – Aug '17)

- Project lead on the characterization and testing of the reliability that comprise key data center server components
- Designed and built a mechanical pneumatic fixture for testing cycles
- Fabricated the testing scripts for polling, logging and parsing data from each testing cycle

**Developmental Operations Engineering Intern, NBCUniversal**, Los Angeles, CA (May – Aug '16)  
*NBCUniversal MediaTech Fellow '16*

- Within technology infrastructure development, concentrated identifying key bottleneck parameters within DevOp production flow
- Generated optimization algorithms for git repository flow while collaborating with DevOps engineers
- Laid out a GUI platform for visualization of git repository flow

**Operations Engineering Intern, BlueNRGY LLC**, Fort Lauderdale, FL (Jan – Mar '15)

- Analyzed data entries delivered from a variety of renewable energy power plants, which included the monitoring of Lone Valley Solar Park, a 30 MW solar plant located in Lucerne Valley, CA.

### **Quality Control Intern, Universal Orlando, Orlando, FL (May – Aug '14)**

- Created annual non-destructive job plans for quality control inspections on three separate new introduced projects
- Collaborated with technicians to determine most optimized and effective quality control strategies

### **Engineering Intern, Technical Services, Universal Orlando, Orlando, FL (May - Aug '13)**

- Redesigned applications such as brake-stop mechanisms on specific ride vehicles
- Worked with a mentor engineer to inspect ongoing projects.

### **STEAM Engineering Mentor, Broward County Public Schools (Nov '15 – May '16)**

- Collaborated with K-5th grade Elementary School teachers to infuse engineering concepts into currently installed curricula.
- Helped execute technical engineering projects for K-5th grade to reinforce curricula learned in the classroom.

## **PROJECTS & HACKATHONS**

### **AutoJello: Intern Hackathon, Facebook (Jul '17)**

- Using python scripts to access any desktop computer's front-camera, to detect movement, AutoJello posts to your Facebook feed after 1hr of no movement detected.

### **Camp Hackathona, Facebook (Jul '17)**

- Adding persistent AI to real world surfaces through an app
- Presented to Zuckerberg and his team as a finalist

### **Escape Room Puzzle (Jan-Mar '17)**

- Collaborated with start-up Warden Inc to design and prototype a puzzle prop for an escape room company in West Palm Beach, FL.
- The puzzle consisted of dials that needed to be aligned in a certain configuration to access the next puzzle.
- Used ESP8266 (for logging), Arduino Uno and 3 hall effect sensors

### **Digital Currency Initiative Bootcamp, MIT Media Lab (Aug '16)**

- Explored the fundamentals of cryptography such as elliptic curves and Merkle trees.
- Participated in hands-on labs deconstructing transactions and building mining devices.
- Selected to attend the Scaling Bitcoin Conference in Milan, Italy (10/6/2016-10/8/2016)

### **TheFloorIsLava, Microsoft Holohack (Jul '16)**

- 48hr hackathon where we used Unity to develop a spatial mapping game for HoloLens.
- Collaborated with Microsoft developers when implementing spatial sound and orientation.

### **Facebook Messenger Chatbot (Jun '16)**

- Utilizing python and Django/Ngrok as a backend server, the project is an entertainment-orientated Messenger Bot to propose to MediaLabs at NBCUniversal.

### **Google/Society of Women Engineers Hackathon (Oct '15)**

- Created an android app for cardboard that allowed users to experience sight through the perspective of the colorblind.

## **GREEN Program Project (Aug '15)**

- Created a business plan for a solar suitcase build and implementation plan to complete academic workshops at the University of Reykjavik, Iceland.

## **HONORS & AWARDS**

### **Student Talon Award (2016)**

- Established in 1997, the award unites alumni, students, campus and community leaders in a celebration of leadership, support and service to FAU.

### **IEEE Power and Energy Society Plus Initiative Scholar (2014 -16)**

- A competitive scholarship program offered to a select 185 applicants from all of US and Canada

### **IEEE Power and Energy Society Schweitzer Meritorious Scholar (2014 -16)**

- An additional merit-based recognition for a select 20 applicants out of the 185 scholarship recipients

### **Google SWE Hackathon Winning Team (2015)**

- Created an operational android app in 14 hours for Google Cardboard that filtered camera lens into various degrees of color-blindness

### **SHPE Extreme Engineer of the Year (2014)**

- After participating in a 24hr engineering design competition this scholarship was given to the top engineer out of 500 others who demonstrated leadership skill and innovative thinking

## **PUBLICATIONS & PRESENTATIONS**

**Boulais, O.** (2015). Integrating Art with STEM Education. TEDxBoca Raton - <https://youtu.be/DjpWQkmopgY>

**Boulais, O. & Torres M.** (2015). Applied Electronics Bootcamp: The Enhancement of Electrical Engineering Curriculum Through Student-Directed Learning Programs. Poster presented at 2015 FAU Undergraduate Research Symposium, Boca Raton, FL.

**Carl, C & Boulais, O. & Navega, C & Levkovsky, A. & Thomas, R. & Bernard, W. & López, K. & Lotarynski, D. & Larrondo Petrie, María.** (2016). Generating Academic Success through Social Networking. 10.18687/LACCEI2016.1.S.057.

**Boulais, O., Solano J., Solano A., Torres M., & Ramirez J.** (2015). Leader and Global Professional Engineer Competences and Development in our Students. (Published in IEEE-RITA LACCEI 2014; ISSN :1932-8540)

**Boulais, O.** (2014). Exploration of Ferrofluid Globule Explosion in Sodium Sterate. Poster presented at Florida Undergraduate Research Symposium, Tampa, FL.

**Boulais, O.** (2015). Materials and Device Characterization of Organic Solar Cells Deposited by Resonant-Infrared Matrix-Assisted Pulsed Laser Evaporation. Presented at SHPE 2015. *Society of Hispanic Professional Engineers RISE Symposium Finalist*

## **RELEVANT COURSEWORK**

Applied Cryptography // Design of Digital Systems (VHDL) // C and Matlab for Engineers // Foundations of C++ // Circuits I&II // Electronics I&II // Electromagnetic Fields & Waves // Microprocessors (MSP430)// Hydroelectric Systems // Geothermal Energy // Biofuel Systems

## **TECHNICAL SKILLS**

**Programming Languages:** C, C++, Python, HTML, Javascript

**Hardware Languages:** Assembly, VHDL

**Simulation Tools:** ModelSim, Cadence Virtuoso, Lab View

**Operating Systems:** UNIX, Linux, Windows 98/2000/XP/Vista, MAC OS X

**Other Tools and Packages:** PSPICE, MS Office, Open Office, Agile, Orcad, LyX, CAM 350, Microsoft AX, AutoCAD, Inventor, SolidWorks, MATLAB, Microsoft Visual Studio, Adobe Suite, Django, Ngrok

**Mechanical Tools:** Table saw, circular saw, bandsaw, MakerBot Replicator

## **EXTRACURRICULARS**

**Chief Operating Officer**, Resident Student Association (Aug '16 – Aug'17)

**Co-Founder**, IEEE Power and Energy Society (Aug'16 – Present)

**Tau Beta Pi**, Social Chair (Aug '16 – May '17)

**Student Ambassador**, Iceland GREEN Program (Aug '15 – Jan '17)

**CECS Student Representative**, Technology Fee Committee, Distinguished Teacher of the Year Committee, and Sustainability Committee, FAU (Aug '15 – Jan '17)

**Teacher's Assistant/Mentor**, STEM Plantation Elementary School Program, Plantation, FL (Aug '15 – Jan '16)

**Region 3 Student Representative**, IEEE (Dec '14 – Jul '17)

**President/Vice President/Mentor**, Engineering Student Council, FAU (Jan '14 – May '17)

**Founder & President**, IEEE FAU Branch (Aug '13 – Aug '14)